

Delta Operations for Salmonids and Sturgeon (DOSS) Group
Conference call: 10/16/2018 at 9:00 a.m.

Objective: Provide advice to the Water Operations Management Team (WOMT) and National Marine Fisheries Service (NMFS) on measures to reduce adverse effects from Delta operations of the Central Valley Project and the State Water Project on salmonids and green sturgeon. DOSS will work with other technical teams. DOSS notes and advice can be found at: http://www.westcoast.fisheries.noaa.gov/central_valley/water_operations/doss.html.

CDFW: Ken Kundargi, Kyle Griffiths, Bob Fujimura, Jason Julienne

DWR: Bryant Giorgi, Kevin Reece, Mike Ford

NMFS: Jeff Stuart, Barb Byrne

Reclamation: Tom Patton, Elissa Buttermore, Towns Burgess, Mike Hendrick, Michael Beakes

SWRCB: Chris Carr

USFWS: Craig Anderson

Agenda Items

1. Agenda review and introductions
2. RPA Implementation review (For the DOSS Dashboard, click on the "Triggers & Indices" tab at: www.baydeltalive.com/djfmj)
3. Current Operations
4. Smelt Working Group
5. Fish Monitoring: Salvage
6. Fish Monitoring: RSTs/trawls/seines
7. DOSS Estimates of Fish Distribution
8. DOSS advice
9. Next DOSS meeting

Agenda Item 2.

RPA Implementation Review

Delta RPA Actions affecting operations during October:

Action IV.1.1 (Alerts that indicate the Delta Cross Channel (DCC) gate operations may be triggered soon)¹:

- Since October 2014, NMFS has used an environmental surrogate to indicate the tributary flow conditions that stimulate movement of yearling-sized spring-run Chinook salmon out of their natal tributaries. Tributary flow increases are used to signal conditions conducive to emigration. Starting on October 1, the First Alert is triggered if either the first component (>95 cfs flow threshold) or second component (>50% change in mean daily flow) has been exceeded at either the Deer Creek gage at Vina (DCV), or the Mill

¹ For details, see pages 60-61 in Enclosure 2 of the 2011 Amendments to the 2009 RPA document at: http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/Water%20Operations/Operations.%20Criteria%20and%20Plan/040711_ocap_opinion_2011_amendments.pdf. Note that in October 2014, NMFS approved a modification of the first component of the first alert to a 95 cfs mean daily flow threshold in either Mill Creek or Deer Creek in lieu of operating the Mill and Deer Creek rotary screw traps.

Creek gage at Los Molinos (MLM). Over the past week (10/8/18 to 10/15/18), the First Alert was triggered every day based on Mill Creek flows greater than 95 cfs. Summer baseline flows at Mill Creek have been greater than the first component trigger of 95 cfs all summer long, thus making this trigger less relevant this water year.

Date	Mill Creek (MLM)		Deer Creek (DCV)	
	mean daily flow (cfs)	change in mean daily flow	mean daily flow (cfs)	change in mean daily flow
10/7/2018	107	--	95	--
10/8/2018	104	-3%	92	-3%
10/9/2018	103	-1%	92	0%
10/10/2018	103	0%	92	-1%
10/11/2018	103	0%	92	0%
10/12/2018	102	-1%	91	-1%
10/13/2018	102	0%	91	0%
10/14/2018	101	-1%	90	-1%
10/15/2018	100	-1%	89	-1%

- Second Alert (triggered only if both Knights Landing water temperatures are less than 56.3°F and Wilkins Slough flows are >7,500 cfs). Recent conditions for:
 - Wilkins Slough flow: 5,962-6,589 cfs (range of mean daily flow for the period 10/9/18 through 10/15/18)
 - Knights Landing water temperature: 58.9°F - 62.2°F (temperature reported at the rotary screw traps for the period 10/9/18 through 10/15/18)
 - The Second Alert has not yet been triggered in WY 2019.

Action IV.1.2² (DCC gate operations):

- Since 10/1/18, none of the criteria requiring DCC gate closure have been met.

Agenda Item 3.

Current Operations (10/9/18)

SWP		CVP	
Exports (cfs)			
Clifton Court Forebay	2,500	Jones Pumping Plant	4,200
Reservoir Releases (cfs)			
Feather - Oroville	2,450	American - Nimbus	1,500
		Sacramento - Keswick	7,250
		Stanislaus - Goodwin	700*

² For details, see pages 62-66 in Enclosure 2 of the 2011 Amendments to the 2009 RPA document at: http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/Water%20Operations/Operations,%20Criteria%20and%20Plan/040711_ocap_opinion_2011_amendments.pdf

		Trinity - Lewiston	300**
Reservoir Storage (in TAF)			
San Luis (SWP)	772	San Luis (CVP)	406
Oroville	1,275	Shasta	2,301
New Melones	1,780	Folsom	439
Delta Operations			
DCC	Open	Sacramento River at Freeport (cfs)	10,742
Outflow Index (cfs)	~4,000	San Joaquin River at Vernalis (cfs)	1,286
E:I	54.5% (3-day avg.)	X2	>81 km

*Fall pulse flow began at midnight on 10/16/18 and will run through early November. Flows will ramp up and down between approximately 450 cfs and 1,500 cfs, with three peaks scheduled. See “Goodwin scheduled releases” at:

<http://cdec.water.ca.gov/dynamicapp/QueryRES?s=GDW&date=2018.11.06+00:00&span=1month>

** Trinity releases are at their winter flow levels.

Factors controlling Delta exports:

- 10/9-10/15: Seasonal salinity management

Approximate OMRs as of 10/15/18:

	Index (cfs)
Daily	-6,700
5-day	-6,700
14-day	-8,000

Weather Forecast

Slightly cooler temperatures but otherwise sunny and dry.

Agenda Item 4.

Smelt Working Group

The Smelt Working Group (SWG) has not yet started meeting for WY 2019. It is anticipated that the SWG will start meeting in late November or early December.

Agenda Item 5.

Fish Monitoring: Salvage

Fujimura (CDFW) provided a salvage summary. No salmonids or sturgeon have been salvaged at the state and federal fish facilities so far this water year.

DOSS Weekly Salvage Update

Reporting Period: October 8-October 14, 2018
 Prepared by Bob Fujimura on October 15, 2018 16:36
 Preliminary Results -Subject to Revision

Criteria	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct	Trend	
Loss Densities									
Wild older juvenile CS	0	0	0	0	0	0	0	→	0
Wild steelhead	0	0	0	0	0	0	0	→	0
Exports									
SWP daily export	9,603	9,197	5,941	4,329	4,510	7,138	6,452	↘	6,739
CVP daily export	8,362	8,419	8,463	8,476	8,453	8,446	8,460	↗	8,440
SWP reduced counts	88%	67%	0%	0%	0%	0%	0%	↘	22%
CVP reduced counts	0%	0%	0%	0%	0%	0%	0%	→	0%

Loss Density = fish lost/TAF; water export = AF; Trend = compared to previous week; wild = adipose fin present
 Loss = estimated number of fish lost at the CVP and SWP Delta export facilities based on estimated salvage (see below)
 Reduced counts = percentage of time that routine salvage sample time were less than 30 min per 2 hours of salvage and export operations
 Yellow highlighted dates indicate a brief fish salvage interruption occurred

Chinook Salmon Weekly/Season Salvage and Loss

Combined salvage and loss for both CVP and SWP fish facilities
 Race determined by size at date of capture; hatchery = adipose fin missing;

Category	Weekly Total			Season Total	
	Salvage	Loss	Trend	Salvage	Loss
Wild					
Winter Run	0	0	→	0	0
Spring Run	0	0	→	0	0
Late Fall Run	0	0	→	0	0
Fall Run	0	0	→	0	0
Unclassified	0	0	→	0	0
Total	0	0		0	0
Hatchery					
Winter Run	0	0	→	0	0
Spring Run	0	0	→	0	0
Late Fall Run	0	0	→	0	0
Fall Run	0	0	→	0	0
Unclassified	0	0	→	0	0
Total	0	0		0	0

Trend = weekly loss per race; Salvage = estimated number of fish collected by the CVP and SWP fish protective facilities per unit of time
 NC = cannot be calculated; hatchery salmon salvage and loss estimates have been corrected using CWT readings when available

Steelhead Weekly/Season Salvage and Loss

Combined salvage and loss for both CVP and SWP fish facilities

Category	Weekly Total			Season Total	
	Salvage	Loss	Trend	Salvage	Loss
Wild	0	0	→	0	0
Hatchery	0	0	→	0	0
Total	0	0		0	0

State Water Project loss = salvage x 4.33; Central Valley Project loss = salvage x 0.68

Agenda Item 6.

Fish Monitoring: The following table presents fish monitoring data summarized over the past week. Unless otherwise noted, reported sizes are fork length. Empty cells indicate zero catches at those locations with sample dates shown.

Location	GCID RST ^A	Tisdale RST ^B	Knights Landing RST ^C	Beach Seines ^D	Sacramento Trawl ^D	Chippis Is. Midwater Trawl ^D	Mossdale Kodiak Trawl ^D
Sample Date	No sampling	10/5-10/15	10/5-10/15	10/9-10/12	10/9, 10/10, 10/12	10/9, 10/11, 10/12	10/9, 10/12
FR Chinook							
SR Chinook							
WR Chinook		2	1				
LFR Chinook							
Chinook (ad-clip)							
Steelhead (wild)							
Steelhead (ad-clip)							
Green Sturgeon							
Flows (avg. cfs)		6,598	6,416				
W. Temp. (avg. °F)		56.6	61.5				
Turbidity (avg. NTU)		9.4	4.5				

^A The GCID RST was raised on October 6, 2018, due to an unanticipated spike in turbidity and debris following sporadic rain events concurrent with a high level of mortality of winter-run juveniles in the live box. The additional mortalities exceeded the annual incidental take levels permitted by the State for juvenile winter-run for the GCID monitoring program. Alternative methods are being explored to improve trapping capabilities when there are large amounts of debris. CDFW is working with GCID on options (for example, half-cone operations) to resume sampling while limiting take for the remainder of the calendar year.

^B Tisdale RST sampling period was from 10/5 at 8:30 am to 10/15 at 9:30 am.

^C Knights Landing RST sampling period was from 10/5 at 10:15 am to 10/15 at 11:15 am.

^D Data reported in the 10/7 to 10/13 DJFMP sampling summary.

Red Bluff Diversion Dam (RBDD)

USFWS biweekly report (9/24/18-10/7/18) for preliminary estimates of passage by brood-year and run for unmarked juvenile Chinook salmon captured by rotary screw traps at RBDD included:

Run and Species	Biweekly Total	Brood Year Total (90% CI)
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Winter-run Chinook (BY2018)	216,550	353,407 (275,968 – 430,845)
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Enhanced Delta Smelt Monitoring (EDSM):

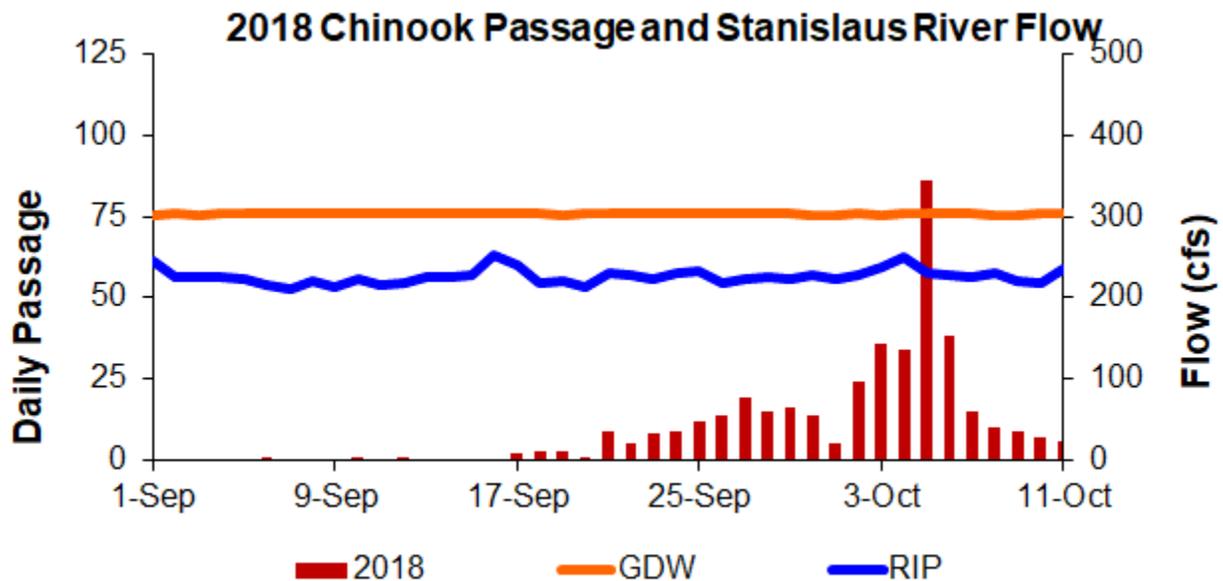
No salmonids were caught in any region of the EDSM sampling.

CDFW carcass surveys:

- **San Joaquin River tributaries:** Chinook salmon carcass surveys, with incidental redd counts, began the week of 10/1/18 on the Merced River, Tuolumne River, and Stanislaus River. CDFW has completed the second week of surveys. No carcasses reported yet on any of the three tributaries. For this week: 3 live Chinook salmon and four redds were reported on the Merced River; 38 live fish and one redd were reported on the Stanislaus River, and 2 live fish and zero redds were reported on the Tuolumne River.
- **American River:** Chinook salmon carcass surveys begin this week.

Stanislaus River weir

Monitoring at the weir near Riverbank (for upstream passage of adult salmonids) began on 9/5/18. The cumulative net upstream passage through 10/14/18 is 448 Chinook salmon (13% were ad-clipped, indicating a hatchery origin) and one *Oncorhynchus mykiss* (data provided by FISHBIO in its 10/15/18 Stanislaus Weir Update). The *O. mykiss* was greater than 16 inches (indicating that the individual was likely anadromous, i.e. a steelhead, rather than a resident adult rainbow trout) and had an adipose fin (indicating that the individual was naturally spawned rather than of hatchery origin). The figure below was provided by FISHBIO in its 10/15/18 Stanislaus Weir Update.



Acoustic-tagged green sturgeon

CDFW has acoustic-tagged 24 juvenile sturgeon (23 green sturgeon and 1 white sturgeon) captured between 7/24/18 and 10/9/18 near Sherman Lake on the Sacramento River (western Delta). Fork lengths of these fish range between 42 cm and 94 cm.

Agenda Item 7.

DOSS Estimates of Fish Distribution

DOSS estimates of the current distribution of listed Chinook and steelhead, as a percentage of the population, are based on recent monitoring data and historical migration timing patterns.

Location	Yet to Enter Delta (Upstream of Knights Landing)	In the Delta	Exited the Delta (Past Chipps Island)
<i>Young-of-year (YOY) winter-run Chinook salmon</i>	98-100% (last week: 99-100%)	0-2% (last week: ~0%)	0% (last week: 0%)

Rationale for distribution

Wild winter-run Chinook:

Four winter-run have been observed at Knights Landing RST since sampling began in late August; one observed during the past week. Two winter-run Chinook salmon juveniles were observed at the Tisdale RST over the past week. No winter-run have been observed in the Sacramento area beach seines or in the Delta or Chipps Island trawls.

Last week, DOSS anticipated a spike in turbidity and in catch of juvenile winter-run Chinook salmon at the Tisdale and Knights Landing RSTs (based on a turbidity and increased catch signal observed at the GCID rotary screw trap). No such spike in turbidity or catch was observed at Knights Landing or Tisdale over the past week.

Agenda Item 8.

DOSS Advice to WOMT and NMFS:

None.

Agenda Item 9.

Next Meeting: The next DOSS conference call will be on **10/23/18 at 9am.**